DVS 204

DIGITAL VIDEO SCALER

- Four inputs, dual outputs
- 3:2 and 2:2 pulldown with True Rate™ recovery
- Dynamic Motion Interpolation (DMI™)
- Accu-Rate Frame Lock (AFL™)
- Aspect ratio conversion with memory presets
- Optional Serial Digital Interface (SDI) input
- 33 scalable output rates
- Quad standard video decoding
- RS-232 control
- Compatible with HDTV and digital displays

The Extron DVS 204 digital video scaler incorporates the latest in high performance, proprietary scaling technology from Extron Electronics with input flexibility essential for today's top-notch audio/visual applications—including an optional Serial Digital Interface (SDI) input.

DESCRIPTION

There are two models in the **DVS 204** line: the DVS 204 and the **DVS 204 D**. Each model supports the following video formats on one of four inputs: an RGB pass-through, component, S-video, and composite video. The "D" (digital) version also supports SDI input signals. For all models, RGB or component video is output simultaneously on one female 15-pin HD connector and three female BNCs. Each model also has the option of an internal, international power supply or a 12V, external power supplies.

To enable superior scaling performance, the DVS 204 features several of Extron's latest proprietary technologies: Dynamic Motion Interpolation (DMI™), 3:2 and 2:2 pulldown detection (patent pending) True Rate™ recovery, and patented Accu-RATE Frame Lock™. Key features include aspect ratio control to accommodate different movie formats, memory recall for up to three presets per input, and vertical blanking adjustments. With 33 selectable output rates, including a variety of HDTV rates, the DVS 204 is the perfect scaling solution for A/V environments such as boardrooms, conference rooms, and home theaters, as well as rental and staging applications. Models with 12V external power supplies are ideal for yachts, planes, and other environments using a 12V power source.

The DVS 204 digital video scaler is housed in a rack mountable, 1U high, half rack width metal enclosure. Control of this scaler is provided via the front panel and RS-232 control. The DVS 204 scaler can also be controlled remotely through an optional IR 901 remote. The front panel buttons control video input selection and picture adjustments. All functions are available through RS-232 utilizing Extron's user-friendly Simple Instruction Set (SIS™).

FEATURES

- **Input and pass-through connectors** – Input one accepts composite video on one female BNC; input two accepts composite, S-video, or component on three female BNCs; input three accepts S-video on a 4-pin mini DIN; input four accepts an RGB pass-through or RGBcvS signal on female 15-pin HD. The optional SDI card can be configured for any of the four inputs.

- **3:2 and 2:2 pulldown with True Rate recovery™ detection (Patent Pending)** –
  3:2 pulldown detection for NTSC and 2:2 film detection for PAL is an advanced film mode processing technique. It helps maximize image detail and sharpness for NTSC or PAL sources that originated from film. When such materials are detected, this technology applies video processing algorithms that optimize the conversion of film-based video, resulting in richly detailed images with sharply defined lines.

- **True Rate™ recovery**– Recovers the natural motion dynamics of material that originated from film.

- **Dynamic Motion Interpolation (DMI™)** – DMI technology is an advanced motion detection and compensation method used to deliver the best aspects of still and motion algorithms. This process results in a superior level of image enhancement capability with no loss of image fidelity.

FEATURES (CONT.)

- **Accu-RATE Frame Lock (AFL™)** – A technology exclusive to Extron that solves frame rate conversion issues experienced by video scalers. When video input and output refresh rates differ, there are certain points in time when the two rates cross over each other. The result is a glitch or image freeze on the display. AFL solves this problem by locking the output frame rate to the input frame rate.

- **Scaled outputs** – The DVS 204 offers 33 different output rates. (see list in specifications).

- **Aspect ratio conversion with memory presets** – Ability to horizontally and vertically size any video input to meet a specific aspect ratio. Three aspect ratio memories for each input can be recalled by pushing the input button repeatedly.

- **Quad standard video decoding compatibility** – The DVS 204 uses a digital, four-line adaptive comb filter to decode NTSC 3.58, NTSC 4.43, PAL, and SECAM.

- **SDI input card** – Optional SDI Serial Digital Interface input available.

- **Picture controls** – Brightness, contrast, color, tint, horizontal and vertical sizing, and horizontal and vertical centering are available per input for fine picture adjustments.

- **Vertical blanking** – Variable top and bottom vertical blanking eliminates edge noise caused by tapehead switching and captioning.

- **Executive mode** – The DVS 204 features a reduced function mode that locks out all front panel functions except for input selection. All functions, however, remain active through RS-232.

- **RS-232 control** – A rear panel, RS-232 control port provides integration of the DVS 204 into third-party control systems.

- **Display compatibility** – Extron DVS 204 scalers are compatible with display devices such as VGA/SXGA monitors, HDTV devices, LCDs, DLPs, or plasma displays.

- **Simple Instruction Set (SIS™)** – Extron's SIS is a set of basic ASCII code commands that provide simple control through a third-party control system. Instead of programming in long, obscure strings of code, SIS makes it easy to operate an Extron product using RS-232 control.

- **Power supply** – 12V models ship with an external power supply; the other two models include a 100-240VAC, 50/60 Hz, autoswitchable internal international power supply for worldwide power compatibility.

VIDEO INPUT

Number/signal type	1 (RGBHV, RGBS, RGsB) pass-through, RGBcvS 1 composite video, S-video, component video (Y, R-Y, B-Y) 1 S-video, 1 SDI (optional, DVS 204 D only) 1 composite video
Connectors	1 BNC female composite video 3 female BNC composite, S-video, component video 1 4-pin mini-DIN female S-video 1 15-pin HD female RGB pass-through 1 BNC female SDI (DVS 204D only)
Minimum/maximum levels	Analog – 0.0V to 1.0V p-p with no offset
Impedance	75 ohms
Horizontal frequency	NTSC 3.58, NTSC 4.43, PAL, SECAM
Vertical frequency	NTSC 3.58, NTSC 4.43, PAL, SECAM
Resolution range	NTSC 3.58, NTSC 4.43, PAL, SECAM
Return loss	-30dB @ 5 MHz
Maximum DC offset	1.5V

VIDEO PROCESSING

Decoder	9 bit digital
Digital sampling	24 bit, 8 bits per color; 13.5 MHz standard Colors: 16.78 million

VIDEO OUTPUT

Number/signal type	1 scaled or pass-through RGBHV, RGBS, RGsB; or scaled component video (Y, R-Y, B-Y)
Connectors	6 female BNC 1 female 15-pin HD
Minimum/maximum levels	0.0V to 0.7V p-p
Impedance	75 ohms
Scaled VGA resolution	640x480[1,3,4,5,6] 800x600[1,3,4,5,6] 848x480[1,3,4,5,6] 852x480[1,3,4,5,6] 1024x768[1,3,4,5,6] 1280x768[2,3,5,6] 1280x1024[1,3,4,5] 1360x765[1,3,4,5,6] 1365x1024[1,3,4,5] HDTV 480p[3,5] 720p[3,5] 1080p[3,5] and 1080i[3,5] 1 = at 50 Hz 2 = at 56 Hz 3 = at 60 Hz 4 = at 75 Hz 5 = locked to the current input's vertical refresh rate 6 = True Rate

SYNC

Input type	RGBHV, RGBS, RGsB
Output type	RGBHV, RGBS, RGsB
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	0V to 1.0V p-p
Output level	TTL 5.0V p-p
Input impedance	75 ohms
Output impedance	75 ohms
Max input voltage	5V p-p
Max. propagation delay	20 nS
Polarity	Positive or negative (switch-selectable)

CONTROL/REMOTE — DECODER/SCALER

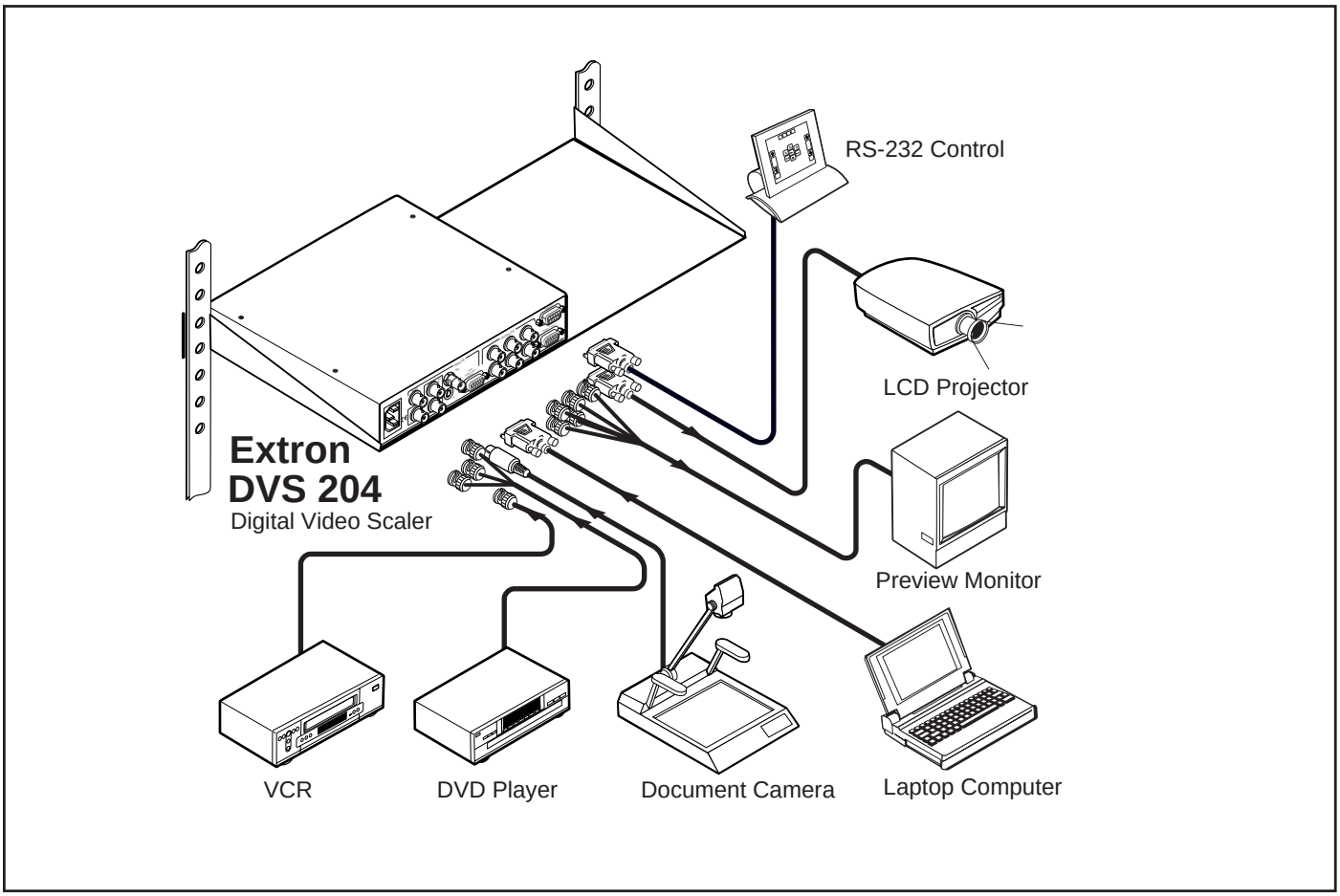
Serial control port	RS-232, 9-pin female D connector
Baud rate and protocol	9600, 8-bit, 1 stop bit, no parity
Serial control pin configurations	1 = input 1 select 2 = TX, 3 = RX, 4 = input 2 select 5 = GND, 6 = input 3 select 7 = input 4 select, 8 = n/a, 9 = hardwired IR
Contact closure	9-pin female D connector (same as RS-232 connector)
Contact closure pin configurations	See pins 1, 4, 6, and 7 above.
IR controller module	Extron IR 901 (optional)
Program control	Extron's control program for Windows® Extron's Simple Instruction Set™ – SIS™

GENERAL

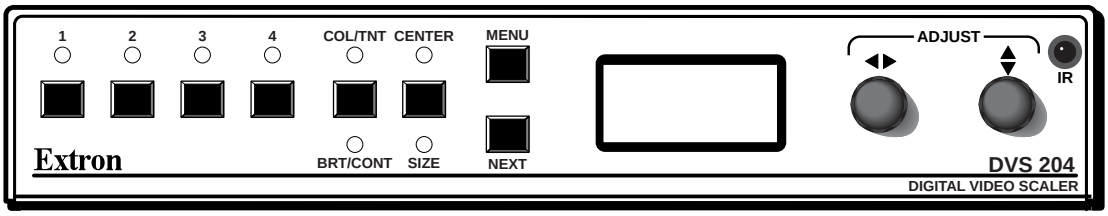
Power	
DVS 204, DVS 204D	100VAC to 240VAC, 50/60 Hz, 30 watts, internal, autoswitchable
DVS 204/204D 12VDC	100VAC to 240VAC, 50/60 Hz, 36 watts, external, autoswitchable; to 12VDC, 3 A power supply. Product requires 2 A.
Rack mount	Yes, with optional rack shelf, part #60-190-01
Enclosure type	Metal
Enclosure dimensions	1.75" H x 8.75" W x 9.5" D (1U high, half rack width) 4.4 cm H x 22.2 cm W x 24.1 cm D (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight	3.3 lbs (1.5 kg)
Shipping weight	6 lbs (2.7 kg)
Vibration	ISTA/NSTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

Model	Part Number
DVS 204	60-442-01
DVS 204 D	60-442-02
DVS 204 (12V external power supply)	60-442-11
DVS 204 D (with SDI input and 12V external power supply)	60-442-12

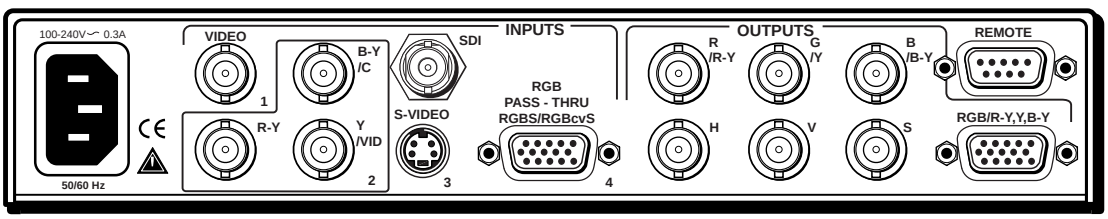
Application Diagram



Panel Drawings



Front



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02-08
68-707-01
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